

FUNE is pre-eminently the "commenuement" season, for out of the half thousand colleges and universities in the United States not less than 400 and their coleginte your this month, less than forty in May and but two or three in July. Although it may seem a missiamer to this day "commencement," the the manches of long usage not only in Eu-

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is new 200 years since the first of commencement was celebrated this community—that is, in an English chine community. It was in the most of 16tf. The fore the confederation of the colonies that the waste of 180,000, profuctive funds and including Jackson, Van Buren Taylor, Fillmore, Lincoln, Johnson and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, profuctive funds to the amount of \$500,000, 120 instructions and Lincoln and the value of \$200,000, 120 instructions and Lincoln and the value of \$200,000, 120 instructions and Lincoln and the value of \$200,000, 120 instructions and Lincoln and the value of \$200,000, 120 instructions and Lincoln and the value of \$200,000, 120 instructions and Lincoln in this country—that is, in an English appoint community. It was in the the histories, and from the small bein the United States. It was a small



KIRKWOOD HALL INDIANA UNI-

coston, in 1638, but today Harvard col

legs alone can boust more students than Oxford or Cambridge in England. There are thirty colleges in the Unit-et States such with more than 4,000 graduates to its crefts and requisit more o University of Pennsylvania 18.5 diversity, New York, 17,710; New York diversity 15,800, Dartmouth, New amparite, 5,200; Prinseron, New Jercauston III., 6.620; Cornell university name, N. V., 5.086; Georgia university 100. Brown university, Tulane, the nts University of Iowa Union college, hencoundy, N. X., and the University Alabama have more than 5,000 grades each, and Amherst, Bowdom ton university, Central university Kentucky Columbian university, Washngton, D. C., Dickinson college, Penn ylvania; Girard, Ohio Wesieyan, Uni-



busetts, have such more than 4,000 raduates on their rolls.

Hope and university graduates in he United States may now be numby year adds to the aggregate, for during the gast thirty years the number of college students has increased from ess than 500 to a little more than 1,100. n each million of our adult population. It is estimated that cather more than E. of o college men are "turned out" each without reference to the question as to chether a college education "mays," it nife! States have freely paid for the rivileges attendant upon their educa-

in speaking of "men" in connection its scheation it is understood, of course, that the term is used in its

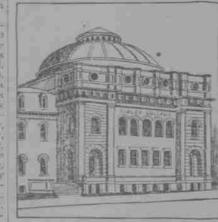


WISCONSIN.

oader sense to include woman, for lthough our "female" colleges are a roduct of the nineteenth century and he men's colleges in this country ante-ate them by nearly 200 years, they ave become important factors in the ducational system of the United States. is not sione in the grammar and high hoois, in the seminaries and acadmies that we now find the "sweet girl



whether rich or poor, so numerous and so amply endowed with material means ed alms are the colleges and universities. Very few female colleges, howhusetts, deharred men entirely from the teaching force. Vassar, Smith, the teaching force. Vassur, Smith, Radeliffs and Bryn Mawr employ both men and women, while in the coeducalonal institutions male teachers are prodominant. Still there is always the ivalry between the students of sither nex, and no one may say that the intrusion of women into the colleges has not been of value. Coeducational in-stitutions are more numerous in the central and western states than in the



to the Pacific, between the great lakes

It seems quite probable that in this country at least the first quarter of the twentieth century will be known in his-tory as the "educational ers." During the two centuries past there has been a great sowing of seed, beginning in New England, New York and Virginia now the entire continent has been praconzer opposition to a college education per se on the ground that it is im-practicable and units rather than its themselves anticipated and so far as now the ratio of students to the gen-ral population of the country is measurably increasing instead of decreasing, as it was some lifty years ago.

MAIN HALL, UNIVERSITY OF IL- True educational values that shall be LINOIS.

For entire the entire that shall be both practical, cultural and disciplinary. The tendency now is toward a departure from the antiquated methods wideney, and Williams college, Massachusetts, have such more than 4,000 the earlier colleges, which them-



UNION COLLEGE, 1795.

actives have been regenerated, and the lege and experiment station. It has an student of the university is fitted to follow out the highest attainment of human thought. He is led toward. not into, original investigation, guided by the ripest intellects and highest types of professional mentality. There have been cordial co-operation and federation, followed by an amplitude of States until there is now no large section that cannot claim to possess a university in its truest sense—in other words, an institution where nearly all human knowledge may be co-ordinated and disagnituded. and disseminated and where the stu-dents may be so trained that the brightest mind of all may perhaps reach up to heights hitherto unattained. While it is recognized that there must be universality in our education, that instructors and 560 students in attend-THE LIBRARY, UNIVERSITY OF Its scope yet the twentieth century tend. The



ried riches that the previous centuries

It cannot be positively asserted that the oldest or the largest and most rich-ly endowed colleges have produced the greatest results, for sometimes the obscure and struggling institutions have ontributed most brilliant names to the galaxy that has given luster to the nation's achievements. Perhaps there is no other body of men that collectively so well illustrates this fact as that which includes the presidents of the United States. Of our twenty-five ex-



TERRITORIAL UNI-

II. Harrison by Hampden-Sydney, Polk by the University of North Carolina, Plerce by Bowdoin, Buchanan by Dick-inson, Grant by West Point, Hayes by Kenyon, Gartield by Williams, Arthu by Union and Benjamin Harrison by

The aims and scope of the colleges founded prior to the beginning of the nineteenth century, such as Harvard, Yale, William and Mary, Princeton, Washington and Lee, Rutgers, Dart-mouth, Brown, Hampden-Sydney, Dickn, Washington College of Mary-l, Nashville university, Western uniersity of Pittsburg, Franklin and Marsity, the University of Vermont, Wilams, University of Tenneasee, Bowdoin, Union, Washington college, Ten-SIBLEY HALL, CORNELL, colleges and universities in general, there is an almost unbroken chain across the continent from the Atlantic to the Paulie, between the Atlantic to the Paulie, between the continent from the Atlantic to the Paulie, between the continent from the Atlantic to the Paulie between the continent from the Atlantic to the Paulie between the continent from the Atlantic to the Paulie between the continent from the Atlantic to the Paulie between the continent from the Atlantic to the Paulie between the continent from the carried to the continent from the continent from the continent from the carried to the



THE UNIVERSITY OF CALIFOR-NIA LOOKING SOUTH.

name was derived from the fact that several religious denominations co-operated in its organization. Cornell university, Ithaca, N. Y., owes its origin to the congressional land grant from the national domain, but its existence and success are due to Hon. Eara Cornell, who gave a foundation fund of \$500,000 and by his careful management of the land scrip realized several initlions for the university, the great work of which is well known. First opened in 1868, Cornell has forged rapidly to the fore and today has 366 instructors and

Another college that is indebted to ing with it the state agricultural col-



UTAH UNIVERSITY.

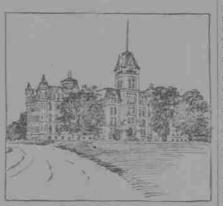
The charter of Princeton was grante cy is also toward the evolution of the in 1716, and, having lived through the highest product possible from the va- colonial, Revolutionary and national periods of our country's life, it is today a full fledged university, envoling more than 1.340 gradents and with 190 instructors. The University of Pennsylvacin, founded as a college in 1740, claims the honor of being the first uni-versity erected in the United States and of containing the oldest medical depart-ment. It is now one of our largest, also having an average attendance of 2.400 nudents, with 25% instructors.



and mechanical arts. Its instructors number 85 and its students 750.

Although not so old as some of its sister colleges, the University of Virginta, located at Charlottesville and artered in 4818, may be with reason alled the first to adopt and develop the university idea as it prevailed in Europe, for Jefferson, its founder and promoter, says in a letter to a Harvard

tices at Harvard, but there is one from which we shall certainly vary, although it has been copied, I believe, by nearly every college and academy in the Unit-Harvard ed States. That is the holding the stument three-Jefferson, Mouroe and Ty- dents all to one prescribes course of southern and eastern; but, as with the ler-attended William and Mary Mad-ison is claimed by Princeton, William cation to those branches only which



vocations to which they are destined. Ve shall, on the contrary, allow them uncontrolled choice in the lectures they shall choose to attend and require elementary qualification only and suffion the principle of doing all the good it ambition; of letting every one come and? rove the condition of his mind." Jefferson, as all who have seen the

beautiful buildings of this university an attest, impressed himself not only mon the curriculum of the university and always has been under state patcondition of \$40,000.

colonial period had been erected on English models, cast in conservative English models, cast in conservative modes, and were to that extent restricted in their work. Jefferson's plan was a differentiation between the simple college and the university in favor of the latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter, and while the earlier colleges are derived from the sale of lands and a latter colleges are derived from the sale of lands and a latter colleges are derived from the sale of lands and latter colleges are derived from the sale of lands and latter colleges are derived from the sale of lands and latter colleges are derived from the sale of lands and latter colleges are derived from the sale of lands and latter colleges are derived from the sale of lands and latter colleges are derived from the sale of lands and latter colleges are derived from the sale of lands and latter colleges are derived from the sale of latter colleges are derived f



MINNESOTA:

enlarged their equipment by engrefting professional and technical schools upon the original stocks, the university prop- it has no preparatory department, but view FROM THE WEST, UNIVER- brother wander and into his work. er was of later growth. It was owing to the foresight of public spirited Amerfears that provision was made when the great northwest was opened for the founding of universities endowed by and under the supervision of the state. By this wise prevision was laid the foundation of what may be truly called our national universities, practically free as to tuition. liberally provided with funds, watched over by every citizen of the states in which they are sit-uated and regarded as the capstones of the state system of education. It is owing to the wisdom of their founders that so many of these great state insti-tutions have enlarged their scope of operations to the extent of becoming ver-



itable universities and have long sinc outgrown the ordinary colleges. For the past forty years or more national and state legislation have co-operated toward the upbuilding of the state un versities, the most vital constituent part of the system being the laws passed by congress, initiated by Hon, Justin S. Morrill in 1858, denating a portion of the public lands for the endowment of a college in each state "to teach such branches of learning as are related to agriculture and the mechanic arts." The bill passed congress, but was vetoed by President Buchanan, being finally



UNIVERSITY OF MONTANA.

body of this matitution, which was jy 500 acres, the value of its buildings opened in 1878, is a board of trustees an pointed by the governor and confirmed by the senate. The original endowment has been frequently supplemented by special appropriations. The university is divided into six colleges.
One of the oldest state endowed uni-

versities is that of Indiana-founded in 1828-which now has 10 instructors and more than 1,100 students. The University of lowe has more than 80 instructors and 1,000 students, being next in ag to Grinnell, which is the oldest in the state.
The keystone of the public school sys-

tem of Missouri is its university, founded in 1839 at Columbia, near the center of the state. Its endowments, aggregating more than a million dollars, are held by the state, which pays interest and makes liberal appropriations. Buildings and grounds are worth \$1,000. 600; the students number more than 1,000 and the instructors 109.

Both Michigan and Wisconsin have universities founded more than sixty years ago and supported by the state.

OF NEBRASKA. That of Michigan, situated at Ann Ar-



are derived from the sate of lands and a tax of one-sixth of a mill on each dol-tar levied by the state. Its buildings alone cost about \$750,000, its instructors number 255 and its students 3,800. Congress at different times granted an aggregate of 33,000 acres of hand to

Wisconsin for the support of a university, and its income from this and other sources is very large. The university domain is about 350 acres in area, ex tending a mile along the south shore Lake Mendota, at Mudison. Like its sister universities, it comprises college of science and liberal arts, mechanics engineering and agriculture, law phothat's economics, political science and history, as well as a school of music. It has 170 instructors and 2,600 students. The University of Nebraska is enti-

tled to special prominence as typical of the institutions having a state founda-tion. It was founded by an act of the the congressional lands for aid is the University of Vermont, which though founded in 1731, organized its faculty in 1800, graduated its first class in 1894 and was reviviled in 1835 by incorporational was reviviled and was reviviled in 1835 by incorporational was reviviled as a part of the public school and was reviviled as a part of the public school and was reviviled as a part of the public school and was reviviled as a part of the public school and was reviviled as a part of the public school as a part of the public school and was reviviled as a part of the public school as a par begun in the lower and continued in the



raduate" in this efforement month of une but she pervades the halls of coliges devoted to the higher reducation at the instructors.

Of the southern group of universities one of the largest is the University of the higher reducation one of the largest is the University of Georgia, chartered in 1785 and opened in our men in the "coed" universities.

OF KANSAS.

OF KANSAS.



The University of Kansas at Law-

The University of Illinois at Urbana time discoveries originate in the university and 1806. It has permanent productive funds exceeding \$500,000, a campus of 40 country. ieres, with farm land aggregating near-



bor, was established in 1827 and opened being in excess of \$300,000. It has 234 grably connect in 1841, congress in 1826 having set apart two townships for the future apart two townships for the future vears, the University of Chicago, with light and its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush, its vast endowments from John D. C. F. Brush its vast endowments from John D. C. F Rockefeller of practically as many mit-lions as the university requires and other genius who with its 3,500 students, seems destined showed his into outstrip all other educational insti- rentive power turions in the state. It is magnificent in at an early agapplication of the great wealth placed fourteen he be

Another university of its class near new Chicago, is the great Northwestern at electric motor Evanston, which, with the two just and had also in-

tered in 1868 with an endowment con-sisting of 202,000 acres of land granted — it is rather curious that Thomas A. by the nutional government or the pro- Edison's first invention or importance eds of the sales thereof, with a per-mpent fund of over \$1,000,000. It has allows monotonous work. When, as a



SITY OF COLORADO.

struction free. Another free university ed up an em is that of Colorado, with 200 students, oil flash, with it is attuated at Housider and was found-ed in 1876. It is liberally supported by legislative appropriation and direct lax- be fitted it over

legislative appropriation and direct tax atton.

In order to complete the chain across the continent, but with no journous in the world in the state and some state continent, but with no journous in the disme which the state continent, but with no journous in the continent to the state continent, but with no journous in the continent to the state continent, but with no journous in the continent to the state continent, but with no journous in the continent, but with no journous in the continent to the state continent, but with no journous in the continent to the state continent, but with no journous in the continent to the state continent, but with no journous in the continent to the state continent, but with no journous in the continent to the state continent, but with no journous in the continent to the state continent in the state continent in the service of the interest of the state of the state and and income trom land leases and sales under the land grant of congress of later of the state and an income from land leases and sales under the land grant of congress of later of the state was probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably such a vast endowment in the world has probably the form of the boys at hits tool the state, which has unders

possible. California's university is one of the most powerful in the land. Like its friendly rival at Palo Alto, the Le-land Stanford, Jr., university, the state institution is for the openingation of the sexes. The many millions of dollars that in recent years have gone into both these universities may well have attracted the amazed attention of the

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The Pacific stope is strong in its universities, comprising notably the two in California and those of its elster states to the north. The University of Oregon, with its 62 instructors and 450 students was organized in 1872, while that of Washington is somewhat older. The University of Washington, located at Seattle, is well called the culmination of the state's system of public schools. It originated in the granting by congress in issi of two townships of land for the establishment of a university. It was opened in 1867 and weven years ago was framilerred to its present picturesque location, with a campus of 250 acres, between Lakes Union and Washington. In 1893 the state pave the university an anticomment of 100,000 acres of land and has always been generous in providing for an institution that has given it an enviable reputation. There are 53 in-structors at the University of Washington, and the average number of stu-dents is about 700.

From the foregoing it will be seen that not only is there an American uni-SCIENCE HALL UNIVERSITY OF chain of malversities extending from ocean to ocean. Each institution is isolate and self centered, yet there is an The University of Kansas at Law-rence, which now boasts 80 instructors and 1,150 students, originated in the act of congress of Jun. 29, 1866, granting a stands on a high plane, and it it ba of congress of Jan. 29, 1888, granting a stands on a high plane, and a stands of a stands of a stands on a high plane, and a stands of a stands

CHANNING A. BARTOW.

PRECOCIOUS INVENTORS.

John Ericsson, the famous Swede who built the Moniter and the great from bridge at Sunderland. England, was remarkably bright as a child, inventing at the age of twelve a new form of sawmill and preparing a working model of it. The saw blade he made of an old watch spring, moved by a crank constructed of a broken teaspoon, and his only tools were a knife, a file and a gim let. It was this same wonderful inventor who later on drave a big ship across

the Atlantic by n hot air engins form of mee practical use or the score of ex

Brush is insep-

Evanution, which, with the two just and had also inmentioned, forms a trio of which the vented an elecstate of illinois may be justly proud.

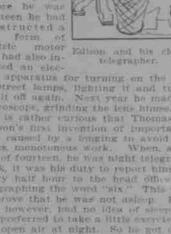
Among the universities of relatively in street lamps, lighting it and turnrecent years is that of Minnesota, charing it off again. Next year he made a

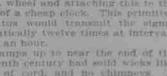
sun however, had no idea of sivering, but preferred to take a little exercise in the open air at night. So he got over the difficulty by cutting suitable noteleer on a wheel and attaching this to the works of a cheap clock. This primitive apparatus would transmit the signal automatically twelve times at intervals

of half an hour All immps up to near the end of the eightsenth century had solld wicks like pieces of cord, and no chimneys. It

the year t was made. named Aime A wand invented burnen bur though a was still flickering room; and pick









Origin of the lamp